

# Few thoughts about MET systematics

- We could calculate the MET systematics comparing the different MET calculations (the "MET steps" in Silvia talk) ??
- To calculate MET\_RefFinal systematics in a consistent way with all other objects in the event:
- apply systematics error to electrons, jets, etc and recalculate MET, subtracting the original objects and adding back the modified ones
  - have to take into account that the out-of-cone correction is not applied for EtMiss
- EtMiss has also the MET\_CellOut contribution (from cells in Topoclusters outside reconstructed objects)
  - the systematics on MET\_CellOut can be evaluated comparing the different calculations of this term (EM scale, H1, LH, minijet calibration....)



# Comparing results from different EtMiss calculations

# Compare results from different MET calculations

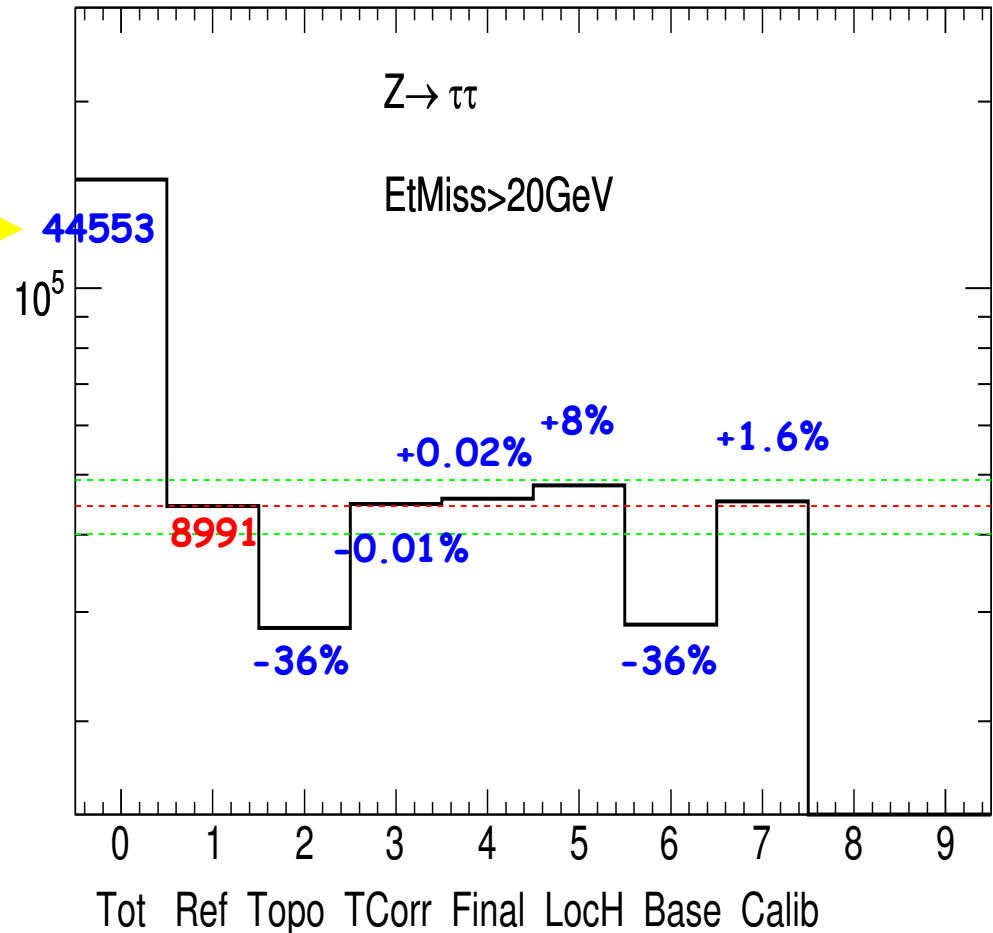
We have different EtMiss calculations (the so-called "steps").

What can we learn comparing results from different EtMiss calculations?

Could we evaluate the EtMiss systematics?

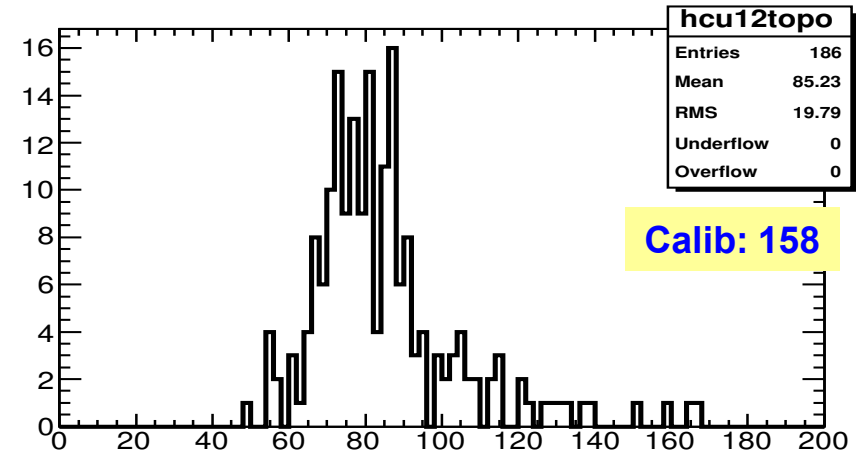
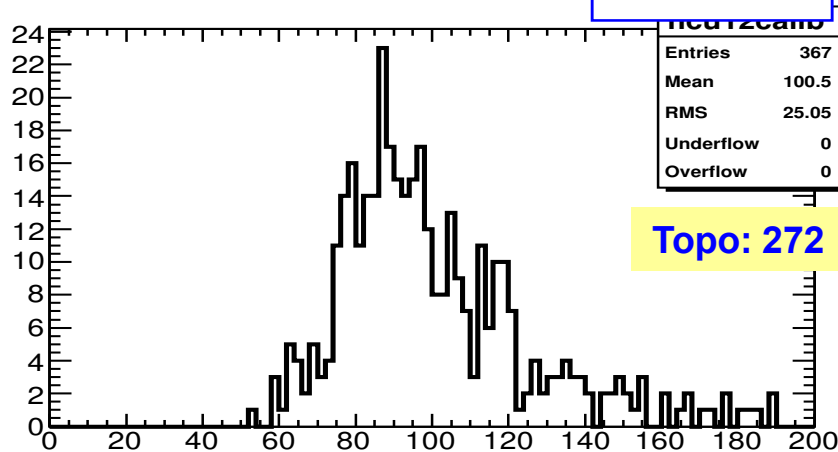
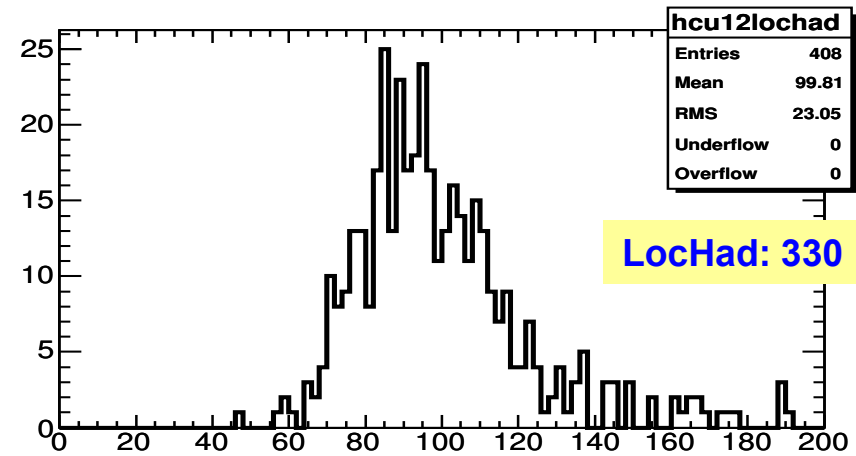
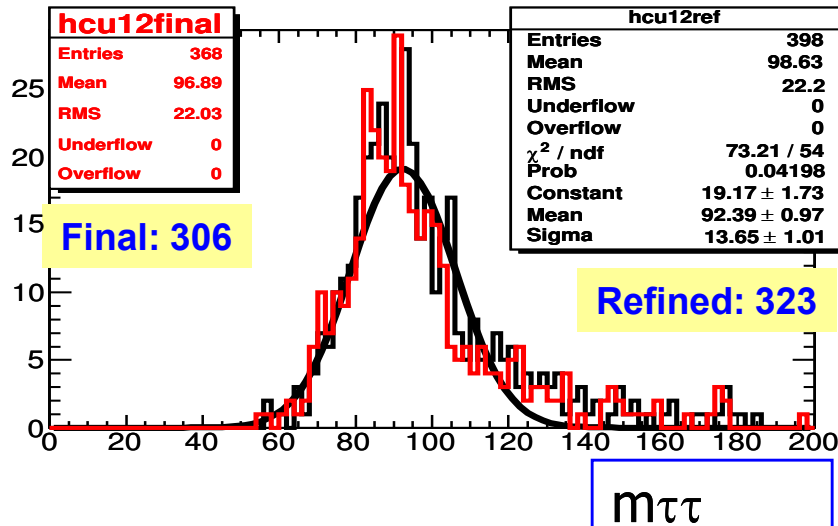
Effect of EtMiss > 20 GeV cut on  $Z \rightarrow \tau\tau$  events for different EtMiss calculations

→ diff ~ 8% not considering the uncalibrated EtMiss: Topo, Base



# Compare results from different MET calculations

$Z \rightarrow \tau\tau$  reconstructed invariant masses for different EtMiss calculations



diff ~ 7% in the acceptance in mass bin,  
not considering the uncalibrated EtMiss  
(Topo) and Calib ( $2\sigma$  cut)...

Evts in mass bin 66-116 GeV